NOTICE OF ALLOWANCE AND FEE(S) DUE

7590   07/06/2010

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EXAMINER
ABAD, FARLEY J

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 07/06/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,937	02/12/2004	Katsuhiko Takeuchi	1990.69695	5512

TITLE OF INVENTION: INTERFACE APPARATUS AND PACKET TRANSFER METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	10/06/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: <u>Mail</u> Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

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nonprovisional	NO	$1510	$300	$0	$1810	10/06/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
ABAD, FARLEY J	2181	710-059000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
❑ Issue Fee
❑ Publication Fee (No small entity discount permitted)
❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)
❑ A check is enclosed.
❑ Payment by credit card. Form PTO-2038 is attached.
❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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DATE MAILED: 07/06/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1620 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1620 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/777,937	TAKEUCHI ET AL.
	Examiner	Art Unit	
	FARLEY J. ABAD	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 04/05/2010*.

2. ☒ The allowed claim(s) is/are *1, 3-5, 7-9, 11-13, and 15-16 (renumbered as 1-12)*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

           International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08),
    Paper No./Mail Date 02/12/2004

4. ☐ Examiner's Comment Regarding Requirement for Deposit
    of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Patrick G. Burns on 05/27/2010 and 06/14/2010.

The application has been amended as follows:

Amendments to the claims

Claim 1. (Currently Amended) A device interface apparatus having a physical

layer, a link layer, a transport layer and an application layer, for transferring commands

and data in packet format by serial transmission between a device and a host, the

interface apparatus comprising:

a receive FIFO disposed at the transport layer and configured to store on a first-

in first-out basis a command packet or a data packet received from the host via the

physical layer and the link layer;

a command detector configured to detect the command <u>packet</u> stored in the

receive FIFO during data transfer and to output a command detection signal;

a receive task file register disposed at the application layer and configured to

load the command content of the receive FIFO;

a send task file register disposed at the application layer and configured to load a

command or data for packet sending;

a send FIFO disposed at the transport layer and configured to store on a first-in

first-out basis the content of the send task file register, the send FIFO causing a

command packet or a data packet to be sent to the host via the link layer and the

physical layer;

an available time generator configured to generate an available time for receiving

another command packet from the host during data transfer; and

a mid-transfer command processor unit, when a command packet is received

from the host during the available time, configured to suspend the data transfer to

decode the received command <u>packet</u> for execution of processing and thereafter to

resume the data transfer<u>;</u>

<u>wherein the mid-transfer command processor comprises a firmware implemented</u>

<u>by execution of a program, and wherein</u>

<u>the mid-transfer command processor comprises:</u>

<u>a suspend processor, when the command detection signal is output from</u>

<u>the command detector for the command packet received during the available</u>

<u>time and stored in the receive FIFO, configured to suspend the currently</u>

<u>executed data transfer and to save parameters upon the suspension into a</u>

<u>memory;</u>

<u>a command decoder configured to decode the command content loaded</u>

<u>from the receive FIFO into the receive task file register;</u>

a data transfer abort module, when abortion of the data transfer is

determined by the command decoder, configured to discard the currently

executed command packet and the saved parameters and to terminate the data

transfer; and

a transfer resume module, when continuance of the data transfer is

determined by the command decoder, configured to throw the command content

of the receive task file register into a command queue, to store command

reception response information into the send FIFO and sending a command

reception response packet to the host via the link layer and the physical layer,

the transfer resume module configured to thereafter release the suspend of the

data transfer and to set the saved parameters to resume the data transfer.

Claim 2. (Cancelled)

Claim 4. (Currently Amended) The interface apparatus according to claim [[2]] 1,

wherein

the transfer resume module is configured to rewrite the data stored in the send

FIFO upon suspending of data transfer into response data to the received command

packet for transfer of a command reception response packet, the transfer resume

module is configured to thereafter [[to]] set the saved parameters to resume the data

transfer.

Claim 5. (Currently Amended) A device interface apparatus for transferring

commands and data in packet format by serial transmission between a device and a

host, the interface apparatus comprising:

a receive FIFO configured to store on a first-in first-out basis a command packet

or a data packet received from the host;

a command detector configured to detect the command <u>packet</u> stored in the

receive FIFO during data transfer and to output a command detection signal;

a receive task file register configured to load the command content of the receive

FIFO;

a send task file register configured to load a command or data for packet

sending;

a send FIFO configured to store on a first-in first-out basis the content of the

send task file register and to cause a command packet or a data packet to be sent to

the host;

an available time generator configured to generate an available time for receiving

another command packet from the host during data transfer; and

a mid-transfer command processor, when a command packet is received from

the host during the available time, configured to suspend the data transfer to decode the

received command <u>packet</u> for execution of processing and thereafter to resume the

data transfer<u>;</u>

<u>wherein the mid-transfer command processing unit is firmware implemented by</u>

<u>execution of a program, and wherein the mid-transfer command processor comprises:</u>

a suspend processor, when the command detection signal is output from

the command detector for the command packet received during the available

time and stored in the receive FIFO, configured to suspend the currently

executed data transfer and to save parameters upon the suspension into a

memory;

a command decoder configured to decode the command content loaded

from the receive FIFO into the receive task file register;

a data transfer abort module, when abortion of the data transfer is

determined by the command decoder, configured to discard the currently

executed command packet and the saved parameters and to terminate the data

transfer; and

a transfer resume module, when continuance of the data transfer is

determined by the command decoder, configured to throw the command content

of the receive task file register into a command queue, to store command

reception response information into the send FIFO and to send a command

reception response packet to the host, the transfer resume module thereafter

configured to release the suspend of the data transfer and to set the saved

parameters to resume the data transfer.

Claim 6. (Cancelled)

Claim 7. (Currently Amended) The interface apparatus according to claim [[6]] 5, wherein the available time generator is configured to detect completion of the transfer of the data packet sent to or received from the host and to generate the available time upon detecting the completion.

Claim 8. (Currently Amended) The interface apparatus according to claim [[6]] 5, wherein

the transfer resume module is configured to rewrite the data stored in the send FIFO upon suspending of data transfer into response data to the received command for transfer of a command reception response packet, the transfer resume unit thereafter configured to set the saved parameters to resume the data transfer.

Claim 9. (Currently Amended) A packet transfer method for a device interface having a physical layer, a link layer, a transport layer and an application layer, the device interface transferring commands and data in packet format by serial transmission between a device and a host, the device interface including:

a receive FIFO disposed at the transport layer and configured to store on a first-in first-out basis a command packet or a data packet received from the host via the physical layer and the link layer;

a command detector configured to detect the command packet stored in the receive FIFO during data transfer and to output a command detection signal;

a receive task file register disposed at the application layer and configured to load the command content of the receive FIFO;

a send task file register disposed at the application layer and configured to load a command or data for packet sending; and

a send FIFO disposed at the transport layer and configured to store on a first-in first-out basis the content of the send task file register, the send FIFO causing a command packet or a data packet to be sent to the host via the link layer and the physical layer;

the packet transfer method comprising:

an available time generation step generating an available time for receiving another command packet from the host during data transfer; and

a mid-transfer command processing step, when a command packet is received from the host during the available time, configured to suspend the data transfer to decode the received command <u>packet</u> for execution of processing and thereafter to resume the data transfer<u>;</u>

<u>wherein the mid-transfer command processing step comprises:</u>

<u>a suspend processing step, when the command detection signal is output from the command detector for the command packet received during the available time and stored in the receive FIFO, configured to suspend the currently executed data transfer and to save parameters upon the suspension into a memory;</u>

a command decode step configured to decode the command content

loaded from the receive FIFO into the receive task file register;

a data transfer abort step, when abortion of the data transfer is determined

by the command decode step, configured to discard the currently executed

command packet and the saved parameters and to terminate the data transfer;

and

a transfer resume step, when continuance of the data transfer is

determined by the command decode step, configured to throw the command

content of the receive task file register into a command queue, to store command

reception response information into the send FIFO, to send a command

reception response packet to the host via the link layer and the physical layer,

thereafter to release the suspend of the data transfer and to set the saved

parameters to resume the data transfer.

Claim 10. (Cancelled)

Claim 12. (Currently Amended) The packet transfer method according to claim

[[10]] 9, wherein

the transfer resume step includes rewriting the data stored in the send FIFO

upon suspending of data transfer into response data to the received command for

transfer of a command reception response packet and thereafter setting the saved

parameters to resume the data transfer.

Claim 13. (Currently Amended) A packet transfer method for a device interface

transferring commands and data in packet format by serial transmission between a

device and a host, the device interface including:

a receive FIFO configured to store on a first-in first-out basis a command packet

or a data packet received from the host;

a command detector configured to detect the command <u>packet</u> stored in the

receive FIFO during data transfer and to output a command detection signal;

a receive task file register configured to load the command content of the receive

FIFO;

a send task file register configured to load a command or data for packet

sending;

and a send FIFO configured to store on a first-in first-out basis the content of the

send task file register and to cause a command packet or a data packet to be sent to

the host;

the packet transfer method comprising:

an available time generation step generating an available time for receiving

another command packet from the host during data transfer; and

a mid-transfer command processing step, when a command packet is received

from the host during the available time, suspending the data transfer to decode the

received command <u>packet</u> for execution of processing and thereafter to resume the

data transfer<u>;</u>

wherein the mid-transfer command processing step comprises:

a suspend processing step, when the command detection signal is output

from the command detector for the command packet received during the

available time and stored in the receive FIFO, configured to suspend the

currently executed data transfer and to save parameters upon the suspension

into a memory;

a command decode step configured to decode the command content

loaded from the receive FIFO into the receive task file register;

a data transfer abort step, when abortion of the data transfer is determined

by the command decode step, configured to discard the currently executed

command packet and the saved parameters and to terminate the data transfer;

and

a transfer resume step, when continuance of the data transfer is

determined by the command decode step, configured to throw the command

content of the receive task file register into a command queue, to store command

reception response information into the send FIFO, to send a command

reception response packet to the host, thereafter to release the suspend of the

data transfer and to set the saved parameters to resume the data transfer.

Claim 14. (Cancelled)

Claim 16. (Currently Amended) The packet transfer method according to claim [[14]] 13, wherein the transfer resume step includes rewriting the data stored in the send FIFO upon suspending of data transfer into response data to the received command for transfer of a command reception response packet, and thereafter setting the saved parameters to resume the data transfer.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The prior art of record taken alone and/or in combination fails to teach and/or fairly suggest wherein the mid-transfer command processing unit is firmware implemented by execution of a program, and wherein the mid-transfer command processor comprises: a suspend processor, when the command detection signal is output from the command detector for the command packet received during the available time and stored in the receive FIFO, configured to suspend the currently executed data transfer and to save parameters upon the suspension into a memory; a command decoder configured to decode the command content loaded from the receive FIFO into the receive task file register; a data transfer abort module, when abortion of the data transfer is determined by the command decoder, configured to discard the currently executed command packet and the saved parameters and to terminate the data transfer; and a transfer resume module, when continuance of the data transfer is determined by the command decoder, configured to throw the command content of the receive task file register into a command queue, to store command reception response information into the send FIFO and to send a

command reception response packet to the host, the transfer resume module thereafter configured to release the suspend of the data_transfer and to set the saved parameters to resume the data transfer, in combination with other recited limitations in claim 1. Claims 5, 9, and 13 are directed towards the same limitations and are allowed for the same reasons as set forth above.

In addition, the invention is advantageous because of its ability to accept a next command without cancellation of the currently executed command during data transfer. Conventionally, a parallel ATA interface employs a configuration in which the host and the device refer to the same task file register, and since only one task file register is disposed at an interface circuit on the device side, if a next command is accepted during data transfer, the content of the task file register executing a current command will be destroyed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARLEY J. ABAD whose telephone number is (571) 270-3425. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. J. A./   /Alford W. Kindred/
Examiner, Art Unit 2181   Supervisory Patent Examiner, Art
                                                    Unit 2181